

CLAIMS

- 1] Cover for an object using solar radiation, wherein the cover comprises a cover sheet made of a material transparent to solar radiation; wherein, viewed in cross-sectional view with respect to the sheet, the sheet has a zig-zag profiled surface structure on either side; wherein the distance between two neighbouring peaks of the zig-zag surface structure is L and the thickness of the sheet is D; and wherein $L < 0.25D$.
- 2] Cover according to Claim 1, wherein the flanks of the zig-zag surface structure run at an angle β with respect to the plane of the sheet and wherein for the range of β : $45^\circ \leq \beta \leq 85^\circ$, such as $45^\circ \leq \beta \leq 55^\circ$, applies.
- 3] Cover according to Claim 2, wherein $\beta \leq 51^\circ$.
- 4] Cover according to one of Claims 2 - 3, wherein $\beta \geq 47^\circ$.
- 5] Cover according to one of Claims 2 - 4, wherein $\beta = 49^\circ \pm 2^\circ$.
- 6] Cover according to one of Claims 2 - 4, wherein $\beta = 49^\circ \pm 1^\circ$.
- 7] Cover according to one of the preceding claims, wherein the distance between two neighbouring peaks of the zig-zag surface structure is L and wherein for the range of L: $0.5 \mu\text{m} \leq L \leq 8 \text{ mm}$, such as $0.5 \mu\text{m} \leq L \leq 2 \text{ mm}$, applies.
- 8] Cover according to Claim 7, wherein $L \leq 200 \mu\text{m}$.
- 9] Cover according to one of Claims 7 - 8, wherein $L \leq 100 \mu\text{m}$.
- 10] Cover according to one of Claims 7 - 9, wherein $L \leq 50 \mu\text{m}$.
- 11] Cover according to one of Claims 7 - 10, wherein $L \geq 10 \mu\text{m}$.
- 12] Cover according to one of Claims 7 - 11, wherein $L \geq 20 \mu\text{m}$.

- 13] Cover according to one of Claims 7 - 12, wherein the zig-zag surface structure has a different value for L on the one side than the other side.
- 5 14] Cover according to one of the preceding claims, wherein the thickness of the sheet is D and wherein $20\text{ }\mu\text{m} \leq D \leq 12\text{ mm}$.
- 15] Cover according to one of Claims 7 - 14, wherein $L < 0.1\text{ D}$.
- 10 16] Cover according to one of the preceding claims, wherein the flanks of the zig-zag profiled surface structure that terminate at the same peak intersect one another at said peak.
- 15 17] Cover according to one of the preceding claims, wherein the zig-zag surface structure comprises a multiplicity of grooves parallel to one another.
- 18] Cover according to one of the preceding claims, wherein the zig-zag surface structure comprises a multiplicity of pyramid-shaped elevations.
- 20 19] Cover according to Claim 18, wherein the base plane of each of the pyramid-shaped elevations or depressions runs in the direction in which the transparent sheet extends and wherein said base plane has a 3-, 4-, 6- or 8-cornered shape or comprises a combination of 4- and 8-cornered base planes.
- 25 20] Cover according to Claim 19, wherein said 3-, 4-, 6- or 8-cornered base plane or said combination of 4- and 8-cornered base planes is shaped such that the pyramid-shaped elevations or, alternatively, depressions essentially fill the entire surface, or at least a surface zone, of the transparent sheet.
- 30 21] Cover according to one of the preceding claims, wherein the cover sheet is flat or at least contains flat segments.

- 22] Cover according to one of the preceding claims, wherein the cover sheet is at least partially curved.
- 23] Cover according to Claim 22, wherein the curvature is arc-shaped and wherein said curvature preferably extends over 150° to 180°.
- 24] Cover according to one of the preceding claims, wherein the cover sheet, or at least segments thereof, is arranged at an angle and wherein the zig-zag surface structure is made such that this drains along the slope.
- 25] Cover according to one of the preceding claims, wherein the cover sheet is a glass cover sheet, such as a cover sheet containing silicon dioxide.
- 26] Cover according to one of the preceding claims, wherein the cover sheet is made of a plastic, such as a PMMA, a PC or a PET-G.
- 27] Combination of two covers according to one or more of the preceding claims, wherein the cover plates of each of the covers are above one another, in particular run parallel to one another.
- 28] Building, in particular a greenhouse for the cultivation of plants, provided with a roof comprising a cover according to one of Claims 1 - 26.
- 29] Combination comprising a cover according to one of Claims 1 - 26 and an object, wherein the cover covers the object and wherein the object uses, in particular absorbs, and converts solar radiation.
- 30] Combination according to Claim 29, wherein the object comprises earth substrate and/or one or more plants.
- 31] Combination according to Claim 29, wherein the object comprises one or more solar cells of the type containing semiconductor material.

- 32] Combination according to Claim 31, wherein the one or more solar cells are positioned in contact with one side of the cover sheet.
- 5 33] Combination according to Claim 32, wherein the one or more solar cells have been applied to the cover sheet by deposition, such as vapour deposition, sputtering, CVD, PVD.
- 34] Combination according to Claim 29, wherein the object comprises a solar collector.